

## Chapter 2.4

# The Regional Innovation Capacity Model

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### ABSTRACT

*This chapter aims to present a conceptual model aimed to understand the Intellectual Capital-based (IC) characteristics of the regional innovation capacity. The proposed Regional Innovation Capacity Model (RICM) can be used for interpretative and normative purposes to analyse the innovation dynamics taking place at regional and territorial level. From an interpretative point of view, the model identifies the pillars grounding the innovation capacity of a local system. While, from a normative perspective, the model can inspire the definition of guidelines driving the design and the implementation of actions, projects and programmes aimed to stimulate and sustain regional development dynamics. The RICM adopts a knowledge-based perspective assuming that IC, in the forms of regional knowledge assets, and knowledge dynamics, in the form of knowledge transfer and learning processes, are the drivers of innovative processes and outputs. The chapter concludes proposing a future research agenda.*

### INTRODUCTION

The emergence of the knowledge economy, intense global competition and considerable technological advance has seen innovation becoming increasingly central to regional development (Cooke, 2008). As regional systems become increasingly focused on innovation, they must systematically invest and

nurture innovation capabilities, from which they execute effective innovation processes, leading to innovations in new regional processes and sustainable development results (Chaminade & Vang, 2008). In this context, knowledge resources represent fundamental drivers to best enhance and support innovation dynamics, the maintenance of competitive strength and ultimately regional value creation (Asheim & Coenen, 2005).

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Therefore, managers and policy-makers need to understand how knowledge resources are linked and affect innovation and regional development. This involves the need to define and use models, approaches and tools able both to improve the understanding about the region's innovation capacity and to provide useful insights for maintaining and developing this crucial ability. From a research perspective, the challenge for managerial and regional science research lies in formulating and extending theoretically grounded models and empirical applications in order to develop more rigorous conceptualisations, useful for regional innovation management.

Although some theoretical contributions have stressed the strategic importance as well as the role of the knowledge resources as key value-drivers for regional systems' innovation dynamics and territorial excellence, there is still a need for a better understanding of the approaches for the identification, development and deployment of the knowledge resources for the improvement of innovation performance.

The main objective of this chapter is to present a conceptual model aimed to understand the Intellectual Capital-based (IC) characteristics of the regional innovation capacity. The proposed Regional Innovation Capacity Model (RICM) can be used for interpretative and normative purposes to analyse the innovation dynamics taking place at regional and territorial level. From an interpretative point of view, the model identifies the pillars grounding the innovation capacity of a local system, such as the innovation sources, innovation capacity, innovation processes and innovation results. While, from a normative perspective, the model can inspire the definition of guidelines driving the design and implementation of actions, projects and programmes aimed to stimulate and sustain regional development dynamics. The RICM adopts a knowledge-based perspective assuming that IC, in the forms of regional knowledge assets, and knowledge dynamics, in the form of knowledge transfer and

learning processes, are the drivers of innovative processes and outputs. Specifically, we adopt the notion of Intellectual Capital (IC) as umbrella concept to identify the main knowledge assets affecting innovation and regional development dynamics (Carlucci & Schiuma, 2007; Bounfour & Edvinsson, eds., 2005; Lerro & Carlucci, 2007; Bradley, 1997). Knowledge assets are those critical and strategic knowledge resources affecting the performance and the value creation dynamics of a specific territorial system (Teece, 1998; Marr and Schiuma, 2001).

Following, the Regional Innovation Capacity Model (RICM) is presented. Then, key results and research and policy implications are discussed. Finally, limitations and suggestions for future research are provided.

## **THE REGIONAL INNOVATION CAPACITY MODEL**

### **Innovation and Regions: Conceptual Foundations**

Over the past two decades, social scientists and policy-makers have been paying more and more attention to regions as designated sites of innovation and competitiveness in the globalising economy (Chaminade & Vang, 2008; Gu & Lundvall, 2006; Vang & Asheim, 2006). The popularity of this issue can be traced back to various empirical studies of regional success stories, such as the fast economic growth of networked SMEs in the Italian industrial districts (Albino & Schiuma, 2003; Piore & Sabel, 1984), the industrial system of Silicon Valley (Saxenian, 1994) as well as other examples of successful regional clustering in most developed and developing economies (Porter, 1990). These studies all drawn on the common rationale that territorial agglomeration provides the best context for an innovation-based globalising economy because of localized learning processes and "sticky" knowledge grounded in social inter-

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